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(54) **Compact cartridge hot runner nozzle having two heaters**

(57) The present invention provides an electrically heated nozzle (22) for injection molding which is insulated to prevent conduction of electricity and loss of thermal transmission to the casing, wherein a first heater (80) and a second heater (90) are in thermal contact with said nozzle. At least a part of the electrical insulation

comprises a layer of dielectric insulator material (84) with an electrical resistance wire heater (80) wound spirally thereabout and another dielectric insulator layer (86) thereover. The first and second insulating layers (84, 86) may be provided by spraying or through telescoping, self-supporting sleeves.

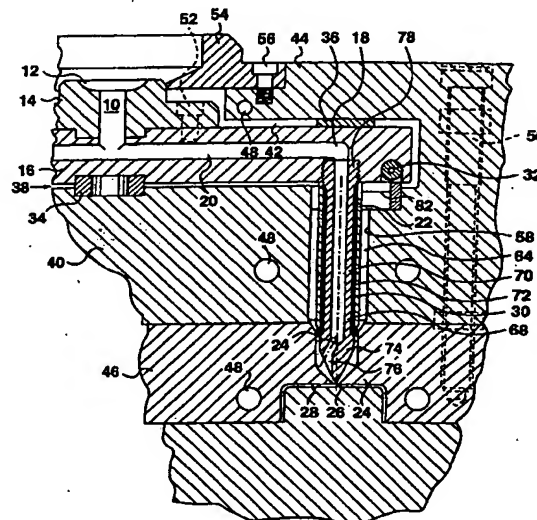


FIG. 2



European Patent
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EUROPEAN SEARCH REPORT

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EP 02 02 7569

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The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 21 March 2003	Examiner Alink, M
CATEGORY OF CITED DOCUMENTS X: particularly relevant if taken alone Y: particularly relevant if combined with another document of the same category A: technological background O: non-written disclosure P: intermediate document		T: theory or principle underlying the invention E: earlier patent document, but published on, or after the filing date D: document cited in the application L: document cited for other reasons &: member of the same patent family, corresponding document	

EPO FORM 1503 (3.02) (P04/C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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